

THIS REPORT CONTAINS ASSESSMENTS OF COMMODITY AND TRADE ISSUES MADE BY USDA STAFF AND NOT NECESSARILY STATEMENTS OF OFFICIAL U.S. GOVERNMENT POLICY

Voluntary Public

Date: 6/20/2014

GAIN Report Number: BK1405

Bosnia and Herzegovina

Post: Sarajevo

Floods Caused Significant Damages to Agriculture Sector in BiH

Report Categories:

Agricultural Situation

Approved By:

Christine Sloop

Prepared By:

Sanela Stanojic

Report Highlights:

In mid-May, Bosnia and Herzegovina (BiH) was hit by record floods. The floods and subsequent landslides have reportedly killed 23 people, affected one-quarter of the population (approximately one million people), damaged 100,000 homes, and affected 30 percent of the country's territory (approximately 14,000 square meters). Total flood-related damage is estimated at \$5.4 billion. A preliminary estimate on the damage to agricultural production is set at \$271 million. This includes losses to crop yields, animal production, equipment, stored animal feed and infrastructure. Up to 70,000 hectares (ha) of cultivated land was flooded and crop damage ranges from 30-100 percent. Farmers will need to replant 15,000 – 20,000 ha. Approximately 10,940 cattle, pigs and small ruminants were lost and a number of animals were stressed by lack of feed and sanitary water for several days. Fortunately, no major outbreaks of animal diseases have been reported in the flooded areas, despite a difficult removal and slow carcass disposal process. Normally domestic agricultural and food production only covers approximately 30 percent of BiH's needs. With the flood losses and the preceding three-year drought, BiH's agricultural sector is in dire condition.

General Information:

Summary

On May 15, a state of emergency was declared in several areas of Bosnia and Herzegovina (BiH) following the worst floods that ever hit the country. The floods affected central, north-east, and northern BiH along the Bosnia, Spreca, Vrbas, Drina and Sava rivers. The most affected towns were Olovo, Zavidovici, Zenica, Zepce, Maglaj, Doboj, Tuzla, Bijeljina, Brcko, Samac, Orasje, Odzak, and municipalities near Banja Luka (Prnjavor, Gradiska and Dubica). The floods and subsequent landslides have reportedly killed 23 people, affected one-quarter of the population (approximately one million people), damaged 100,000 homes, and affected 30 percent of the country's territory (approximately 14,000 square meters). In some areas (Samac, Orasje and Bijeljina) the water took more than three weeks to recede because of little or no natural drainage. The impact of the floods on BiH's economy, including agriculture, was considerable. According to a preliminary estimate developed by the European Union, United Nations and World Bank, total flood –related damages are valued at approximately \$5.4 billion (4 billion EUR). The Food and Agriculture Organization's (FAO) preliminary assessment of damages to agricultural production is \$271 million. This includes losses in crop yields, animal production, and property (equipment, stored animal feed, and infrastructure). Up to 70,000 hectares (ha) of cultivated land was flooded and the extent of damage to the crops ranges from 30-100 percent. FAO experts believe wheat, corn and forage crop yields will be significantly reduced. Farmers will need to replant 15,000 – 20,000 ha at a cost of \$13.6 - 17.7 million (10 -13 million EUR). Livestock losses (mainly cattle and swine) are estimated at approximately \$2.7 million (2 million EUR). Fortunately, no major animal disease outbreaks have been reported in the flooded areas, despite a difficult removal and slow carcass disposal process. BiH has only two small-capacity incinerators (up to 50 and 200 kilograms) and thus large animals had to be buried or transported to Serbia for incineration (there were a total 16 shipment or 170 tons). The rain also triggered more than 2,000 landslides. It remains unknown how many people were left homeless or destitute. The floods and landslides cut off telecommunications, electricity and water supplies in some areas and many roads have been extensively damaged. There are more than 9,000 minefields with over 120,000 unexploded mines in BiH from the 1992-1995 war. It is unknown how many mines moved as a result of the floods and landslides. Economic experts forecast that the floods will adversely affect GDP growth (from forecasted 2.2 percent to 1.1 percent), exports, and even tax revenues (forecast to decline 30 percent).

Losses in Agriculture

According to the FAO's preliminary report, up to 70 000 ha of cultivated land were flooded and that resulted damages ranging from 30-100 percent. Eighty percent of the flooded area was dedicated to grain cultivation for animal feed (corn and wheat) and twenty percent was planted to fruits and vegetables. A total of 52 municipalities were affected. Around 2,500 households were severely affected and lost housing and plots, while 6,000 were moderately affected and 10,000 households were lightly affected with farmers experiencing limited crop losses. In the Bijeljina region, 20 villages were flooded and 25,000 ha or 46 percent of total cultivated land damaged. This area, also known as the main grain-producing region in BiH, was flooded by both the Sava and Drina rivers. Twenty villages and part of the Brcko town were also flooded by the river Sava, including 7,000 ha of cultivated land. The Sava River also flooded the town of Orasje and damaged six villages and 5,000 ha of agricultural

land. The area of Samac was severely affected including five villages with 3,000 ha of land. The level of damage was very high because the water took more than three weeks to recede. The agricultural areas where the water receded within a day or two will have reduced yields, but the areas where the water took longer to recede are expected experienced greater total damage.

For now, BiH's Food Safety Agency and the Republika Srpska (RS) Agricultural Ministry warned consumers not to eat produce from the affected areas as the land needs to be decontaminated.

Farmers could still plant shorter vegetation maize hybrids (FAO 400, 300 and 200). It is expected that 85-90% of the damaged corn area will be replanted. Farmers, who miss the sowing deadlines, will try to sow winter wheat in the Fall. Thus an increased area under wheat is expected in 2014/2015 (2013/2014 area was approximately 60,000 ha). The current wheat crop should soon be harvested, but yields (2.7 metric tons on average) are expected to be lower because of the elevated humidity and high temperatures that have contributed to a higher incidence of wheat leaf rust and fusarium head blight. The floods caused the following animal losses: approximately 954 cows, 8,127 pigs, 1,852 sheep and goats. The animals that survived in the water for several days were highly stressed showing increased incidents of mastitis, diarrhea and pneumonia. The stress and diseases in the animals has caused productivity to decline by over 30 percent. Many farmers lost their feed supplies and are now dependent on donations. Preventive vaccination against diseases (e.g. anthrax) has started. Veterinary authorities report that the animal health situation is under control, but they are concerned that contagious diseases and zoonosis might still appear.

The RS Ministry of Agriculture reported that only around ten percent of its 70,000 registered farmers have farm insurance. The farmers claim the insurance rate is too high and they cannot afford to pay.

Land Contamination

The floods caused land contamination from various sources such as animal carcasses, fuel and waste that leaked from industrial firms, sewers, septic tanks, gas stations and storage tanks. The contamination affected the soil, water and facilities.

The Federation Institute for Agropedology conducted a preliminary examination of soil in flood areas in the Federation (except part of Posavina Canton where the water has not yet fully receded). Several locations near Maglaj, Zepce and Jajce showed elevated levels of mercury and arsenic, while other areas showed an excess presence of nickel, chromium and cobalt. Crop cultivation in these locations should be limited to plants that absorb fewer heavy metals during the growing cycle, such as tomatoes, peppers, beans, peas, eggplant, melon, and corn. Experts from the Institute also advised that while some plants such as lettuce, carrots, spinach, potatoes and cabbage can be used for soil decontamination since they absorb heavy metals, they cannot be consumed afterwards. Meanwhile the Republika Srpska Institute for Agrogeology reported that they tested 40 soil samples and the results showed that the arable land in the regions of Bijeljina and Samac were not contaminated. Test results for the Samac region showed increased nickel levels, but nickel isn't a hazardous pollutant for agriculture and human health.

Food and Feed Prices Remain Unchanged

Milk and meat prices remain unchanged and animal feed prices are also holding steady. Although also severely affected by flooding, Serbia, the main regional provider of corn and wheat grain has not yet increased its prices for these commodities.

Government Response

The government has been overseeing evacuation, water drainage and health services such as disinfection. It has also established collection centers and provided food to the displaced persons. Feed was provided to animals. Veterinarians have been providing preventive vaccination (e.g. anthrax) and antibiotic treatments to animals in the affected areas. Agricultural extension officers have been advising farmers in areas that are accessible. The RS Ministry of Agriculture and the State Veterinary office issued flood response instructions to farmers. The authorities demanded that commercial banks suspend loan repayments and reprogram loans for affected farmers. The RS Government has started distributing feed, corn seeds and fertilizer to farmers to replant corn fields. Within the Ministry of Foreign Trade and Economic Relations the sector for Agriculture has stated there is an immediate need for veterinary vaccines, animal feed and seeds for replanting and that, in the long term, BiH will need to reconstruct the damaged infrastructure, facilitate crop insurance and improve water management practices.

The RS Agricultural Ministry announced it will use the entire \$ 42 million (60 million KM) from its agricultural support budget to help farmers recover from the recent floods. The assistance measures will include providing seeds to replant approximately 35,000 hectares (mainly corn and forage) and forgiving any debt for fertilizer distributed during the Fall sowing. The Agricultural Ministry also proposed waiving the annual concession fees for the flooded land and increasing the quota of subsidized diesel available to the farmers in the affected areas, but these measures have yet to be agreed upon. The Ministry will provide a subsidy for forage production, for rebuilding greenhouses and obtaining milking and other small mechanized equipment. Farmers also will receive compensation for animal losses and the RS Investment Development Bank will set up special lines of credit with favorable conditions for agricultural entities in the affected areas. In the Bijeljina Region (RS) 25,000 hectares were affected by floods and reportedly will be replanted.

Although the Federation Parliament also voiced its support for allocating \$46 million (65.8 million KM) from its agricultural support funds for flood-related assistance to Federation farmers, the Agricultural Ministry has not taken action as it claims existing support funds are already insufficient and using them for flood relief would jeopardize agricultural production in non-flooded areas.

The Ministry of Foreign Trade and Economic Relations announced that the preliminary estimates regarding direct damage to country's flood defense system are over \$75 million, while cost to improve the system could reach an additional \$245 million. On June 16, representatives of Bosnia and Herzegovina, Slovenia, Croatia, Serbia and Montenegro met at a regional ministerial meeting arranged by the International Sava River Basin Commission to discuss flood protection in the Danube River Basin. The Ministers agreed to intensify their efforts to conclude a Flood Defense Protocol that will enhance coordination to reduce the risk of flooding throughout the basin. They also committed to work on developing a risk management plan and establish a system of forecasting and advance warning of potential flooding in the Danube Basin. The next ministerial meeting, which will be held in early December, should further define joint activities for strengthening the flood defense/control system.

International Response

Regarding international support for BiH's agriculture in response to the disaster, many foreign governments and organizations announced a variety of assistance projects. The US was one of the first donors and so far has donated more than \$12 million for general assistance. USAID reacted promptly and distributed animal feed and corn seeds to selected farmers through UNDP shortly after the floods stopped. The EU made available \$4.1 million to assist the most vulnerable to address their immediate needs, such as food, health, sanitation, and shelter. The EU is planning an additional contribution of \$57 million for public infrastructure in the affected area such as schools and social services as well as basic equipment for enterprises and farms to restart their activities. The money will be available by the end of June.

Note: Before the floods, on May 16, the World Bank approved a \$24 million loan for the Drina Flood Protection Project. There are two components to the project, the first component being flood protection infrastructure and support in the Bijeljina area in the flat plains downstream near the confluence with the Sava River. The second component is the flood protection infrastructure and support for the Gorazde area, which will include civil engineering works and related investments in four clusters in the Bosnia Podrinje Canton (around Gorazde) near the middle of the Drina. This project will reduce the sensitivity of these communities to flooding and help protect agricultural production in the area (8,500 hectares of farmland), thus increasing income security. It is estimated that the municipalities along the Drina River have a population of 175,000 people of whom 20,000 frequently suffer from direct economic losses due to flooding, according to the World Bank.

Agriculture Sector Recovery

Farmers who have suffered property and crop losses will need financial assistance to reinvest and rebuild their production. Many farmers are already financially exhausted from investing in spring sowing, and with reduced yields it will be difficult to continue investing in planting.

A number of farmers will have to secure additional loans from commercial banks at interest rates that range from 8-18%. Farmers who lost fodder crops will likely only keep the nucleus herd and cull lower performing animals. Dairy farmers will try to maintain the milk production as an important and regular source of income. Meat animals (cows and pigs) will be kept as long as the feed stocks last and will be then be sold for slaughter.

The floods affected approximately 70,000 hectares of wheat, corn and forage crops. Feed inputs are expected to be more costly as a result of shortages and the need to pay for imported grain. BiH already has a lower rate of milk production (3,000 liters per lactation) compared to Western Europe (7,000 liters) and the United States (9,000 liters). Local authorities and farmers in the affected areas will need technical assistance to design an appropriate recovery plan and to learn techniques to cope with reoccurring floods. The use of superior dairy genetics from the United States could also be an important production tool, if resources were made available.

